

CLAIMS

1. An orbital resistance-adjustable sphere exercising apparatus comprising:
 - a) a sphere cradle having a base that includes a means for supporting three evenly-spaced sphere friction pads,
 - b) a sphere that is supported by the three sphere friction pads and having an upper inner-pole cavity,
 - c) means for adjusting the friction that is equally applied to said sphere by the three sphere friction pads, and
 - d) a telescoping pole assembly comprising:
 - (1) an inner pole having an upper end and a lower end, wherein the lower end is inserted into the inner-pole cavity on said sphere and attached thereto by an attachment means,
 - (2) an outer pole having an upper end and a lower end, wherein the lower end is slidably inserted into the inner pole and retained therein at a selectable height by a height adjusting means, and
 - (3) an articulated handle attached by an attachment means to the upper end of the outer pole, wherein the combination of the handle, telescoping pole assembly and the friction produced by said sphere allows several exercising routines encompassing a full range-of-motion to be performed.
2. The apparatus as specified in claim 1 wherein said apparatus can be used to perform an exercise by utilizing a single apparatus or two apparatuses.
3. The apparatus as specified in claim 1 wherein said base further having a plurality of base mounting bores that allow said base to be attached to a substantially flat surface by means of a plurality of bolts inserted into the flat surface, wherein the flat surface can consist of a solid floor or a portable platform having a front edge and a rear edge.

4. The apparatus as specified in claim 3 wherein said portable platform further comprises:

a) a seat rail having a front section and a rear T-section, wherein the front section is centrally attached to the rear edge of said portable platform, and

b) a vertical member collapsibly attached to the seat rail and having a lower section and an upper section, with the lower section having means for being moved forward and backward along said seat rail, wherein the upper section having attached a back support and below the back support a collapsible seat, where when the seat is collapsed against the vertical member, the vertical member is collapsed forward along the portable platform, and the telescoping pole assemblies are rotated into a flat position, said apparatus is placed in a stowed or traveling position.

5. The apparatus as specified in claim 1 wherein the sphere friction pads are made of ultrahigh molecular weight polyethylene (UHMW-PE) and have an inner concave surface that follows the curvature of said sphere.

6. The apparatus as specified in claim 1 wherein said handle consists of a T-slot articulated handle that allows rotation in two planes to permit freedom of movement in any direction and angle, said handle comprising:

a) front ring having an outer surface, an inner surface, an outer diameter and an inner diameter, wherein the inner diameter having one-half of a first handle cavity and one-half of a second handle cavity in alignment with the first handle cavity, wherein the inner surface having one-half of a cylindrical yoke groove,

b) a rear ring dimensioned to fit over and be attached by an attachment means to the front ring, said rear ring having an outer surface, and an inner diameter, wherein the inner diameter having one-half of a complimentary first handle cavity and one-half of a complimentary second handle cavity that is in alignment with the first handle cavity, wherein the inner surface having one-half of a complimentary cylindrical yoke groove,

c) a hand grip designed to rotate through 360-degrees comprising:

- (1) a tube dimensioned to be rotatably inserted into the two-halves of the first and second handle cavities,
- (2) a handle core placed over the tube,
- (3) a resilient cover inserted over the handle core, and
- d) a yoke slider having a T-slot that slidably fits into the two-halves of the yoke groove, wherein said yoke slider is free to rotate through 360 degrees, and includes a lower surface from where extends a substantially centered yoke extension that is dimensioned to fit into and be attached to a yoke slot located on the upper end of the outer pole.

7. An orbital resistance-adjustable sphere exercising apparatus comprising:

a) a sphere cradle comprising:

- (1) a base having an equilateral triangular shape, a lower surface, an upper surface, a plurality of base mounting bores, a first truncated apex, a second truncated apex and a third truncated apex,
- (2) a first sphere support frame having a lower edge in alignment with the lower surface of the base, an upper edge, and a first sphere friction pad opening located adjacent the upper edge, wherein the first sphere support frame is fixedly attached by an attachment means to the first truncated apex,
- (3) a first sphere friction pad having an inner concave surface and an outer surface having a protrusion dimensioned to be inserted and frictionally held within the first sphere friction pad opening,
- (4) a second sphere support frame having a lower edge in alignment with the lower surface of the base, an upper edge, and a second sphere friction pad opening located adjacent the upper edge, wherein the second sphere support frame is fixedly attached by an attachment means to the second truncated apex,
- (5) a second sphere friction pad having an inner concave surface and an outer surface having a protrusion dimensioned to be inserted and frictionally held within the second sphere friction pad opening,
- (6) a first side panel fixedly attached by an attachment means between the first sphere support frame and the second sphere support frame,

(7) a second side panel having a first edge fixedly attached by an attachment means, to the first sphere support frame and a second edge that terminates at a first edge of the third truncated apex,

(8) a third side panel having a first edge fixedly attached by an attachment means to the second sphere support frame and a second edge that terminates at a second edge of the third truncated apex,

(9) a cross-member attached inward and across the second edges of the second and third side panels respectively, with the cross-member having an inner surface and an outer surface, with the inner surface having a bolt-head retaining cavity that interfaces with a bolt bore extending therethrough,

(10) a pressure adjusting threaded bolt inserted into the bolt bore, with the bolt head captively held within the bolt-head retaining cavity and the threaded section of the bolt extending outward from the plane of the third truncated apex,

(11) a third sphere support frame having a lower edge in alignment with the lower surface of the base between the second edges of the second and third side panels, an upper edge, a third sphere friction pad opening located adjacent the upper edge and a bolt bore in alignment with the threaded bolt,

(12) a third sphere friction pad having an inner concave surface and an outer surface having a protrusion dimensioned to be inserted and frictionally held within the third sphere friction pad opening,

(13) a washer inserted into the threaded section of the pressure adjusting threaded bolt,

(14) a sphere friction adjusting rod having an inner surface and an outer surface, wherein the inner surface having a threaded cavity that is threaded into the threaded section of the pressure adjusting threaded bolt, with the inner surface interfacing with the washer, wherein when the rod is rotated clockwise, the third sphere support frame moves inward, thus allowing the three sphere friction pads to simultaneously extend inward and each apply an equal inward pressure, likewise; when the rod is rotated counter-clockwise the equal inward pressure is reduced,

b) a sphere having a vertically-centered, combination bore and cavity comprising an upper inner-pole cavity followed sequentially downward by a bolt bore and a bolt head

cavity,

c) a telescoping pole assembly comprising:

(1) an inner pole dimensioned to be inserted into the upper inner-pole cavity on said sphere, said inner pole having an upper end and a lower end, with the lower end having a threaded bore that accepts a threaded bolt inserted through the bolt bore on said sphere,

(2) an outer pole dimensioned to be slideably inserted over the inner pole, said outer pole having an upper end and a lower end,

(3) means for retaining the outer pole at a selectable height with respect to the inner pole, and

(4) a handle attached to the upper end of the outer pole by a handle attachment means, wherein when the handle is grasped, the combination of said telescoping pole assembly and said sphere allow several exercising routines encompassing a full range-of-motion to be performed.

8. The apparatus as specified in claim 7 wherein the base of at least one sphere cradle is attached to a substantially flat surface by means of a plurality of bolts inserted into the plurality of mounting bores.

9. The apparatus as specified in claim 8 wherein said flat surface is comprised of a solid floor.

10. The apparatus as specified in claim 8 wherein said flat surface is comprised of a portable platform comprising a front edge and a rear edge.

11. The apparatus as specified in claim 10 wherein said portable platform further comprises a seat rail having a front section and a rear T-section, wherein the front section is centrally attached to the rear edge of said portable platform.

12. The apparatus as specified in claim 11 further comprising a vertical member collapsibly attached to the seat rail and having a lower section and an upper section, with

the lower section having means for being moved forward and backward along said seat rail, wherein the upper section having attached a back support and below the back support a collapsible seat, where when the seat is collapsed against the vertical member, the vertical member is collapsed forward along the portable platform, and the telescoping pole assemblies are rotated into a flat position, said apparatus is placed in a stowed or traveling position.

13. The apparatus as specified in claim 7 wherein said first, second and third friction pads are made of ultrahigh molecular weight polyethylene (UHMW-PE).

14. The apparatus as specified in claim 7 wherein said means for fixedly attaching the sphere support frames and the side panels is by a welding process.

15. The apparatus as specified in claim 7 wherein said washer is comprised of a steel needle-roller thrust bearing.

16. The apparatus as specified in claim 7 wherein said sphere adjusting rod further comprises a plurality of outward extending knobs that facilitate the rotation of the rod.

17. The apparatus as specified in claim 7 wherein said sphere is constructed of solid anodized aluminum.

18. The apparatus as specified in claim 9 wherein said sphere comprises:

a) an upper hollow hemisphere having:

(1) a lower edge having a perimeter alignment protrusion,

(2) a first downward extending cavity dimensioned to slidably receive the inner pole, said cavity having an upper edge that is attached by a horizontal member to the lower edge of said hemisphere and a lower surface having a centered upper bolt bore,

b) a lower hollow hemisphere having:

(1) an upper edge having a perimeter alignment cavity dimensioned to interface with the alignment protrusion on said upper hollow hemisphere,

(2) a second downward extending cavity dimensioned to slidably receive the first downward extending cavity, said cavity having an upper edge that is attached by a horizontal member to the upper edge of said hemisphere and a lower surface having a lower bolt bore in alignment with the upper bolt bore, and

(3) a bolt tube extending downward from the lower bolt bore and terminating with a bolt head cavity, wherein when a threaded bolt is inserted sequentially through the bolt tube, the lower bolt bore, the upper bolt bore and threaded into the threaded bore on the lower end of the inner pole, the two hemispheres are joined to form a sphere.

19. The apparatus as specified in claim 18 wherein the two joined edges of the hollow sphere are welded, ground and polished to form a sphere having a smooth finish.

20. The apparatus as specified in claim 7 wherein said means for retaining the outer pole at a selectable height comprises:

- a) said inner pole having at least one horizontal pin cavity,
- b) said outer pole having at least one pin bore in alignment with the at least one horizontal pin cavity, and
- c) a pin frictionally inserted through the pin bore and into the pin cavity.

21. The apparatus as specified in claim 7 wherein said handle is comprised of a vertical resilient grip handle having an upper surface and a lower surface.

22. The apparatus as specified in claim 21 wherein said means for attaching the vertical resilient grip handle comprises:

- a) a cylindrical rod extending downward from the lower surface of said handle, the rod having a horizontal pin cavity,
- b) said outer pole having a pin bore therethrough in alignment with the pin cavity, and
- c) a pin frictionally inserted through the pin bore and into the pin cavity.

23. The apparatus as specified in claim 7 wherein said handle consists of a T-slot articulated handle that allows rotation in two planes to permit freedom of movement in any direction and angle, said handle comprising:

a) a first ring having an outer surface, an inner surface, an outer diameter and an inner diameter, wherein the inner diameter having one-half of a first handle cavity and one-half of a second handle cavity in alignment with the first handle cavity, wherein the inner surface having one-half of a cylindrical yoke groove,

b) a second ring dimensioned to fit over and be attached by an attachment means to the first ring, said second ring having an outer surface, and an inner diameter, wherein the inner diameter having a second-half of a first handle cavity and a second-half of a second handle cavity that is in alignment with the first handle cavity, wherein the inner surface having a second-half of a complimentary cylindrical yoke groove,

c) a hand grip designed to rotate through 360-degrees comprising:

(1) a rod dimensioned to be rotatably inserted into the two-halves of the first and second handle cavities,

(2) a handle core placed over the rod,

(3) a resilient cover inserted over the handle core,

d) a yoke slider having a T-tab that slidably fits into the two-halves of the yoke groove, wherein said yoke slider is free to rotate through 360-degrees, and includes a lower surface from where extends a substantially centered yoke extension that is dimensioned to fit into a yoke slot located on the upper end of the outer pole, and

e) means for attaching the yoke extension to the yoke slot.